

Serial No.: 09/423,916

Attorney

7,0011

REMARKS

Favorable action on the above-identified patent application, as respectfully requested.

This Amendment is in response to the Office Action dated February 16-30, and 33-46 are currently pending in this application. Claims 1-13 are cancelled, and claims 14, 15, 31 and 32 are cancelled herein. Claim 33 is cancelled. Only claim 46 is independent.

In the Office Action, claim 30 was rejected as being indefinite in its second paragraph, for failing to particularly point out and distinctly define the invention which applicant regards as the invention. Specifically, the phrase "elastically damped" is unclear. Accordingly, claim 30 is amended to read "the first material and said second material are rigidly connected to each other to resist thrust loading" to further clarify the invention. Support for this can be found at page 15, lines 27-28.

In the Office Action, claims 14-39, 44 and 45 were rejected as being obvious over Tigliev (US 5,609,316) in view of Motoda et al. (US 4,047,731); claims 40 and 41 as being obvious over VanAuken (US 4,047,731); claims 40 and 41 as being obvious over VanAuken and in further view of Yamaguchi et al. (US 4,047,731); claim 42 as being obvious over Tigliev in view of Motoda, in further view of Hoppl et al. (US 3,637,233). The rejection of the claims is hereby traversed.

In rejecting the claims, the Examiner cited Tigliev in view of the newly cited Van Auken. The rejection relies on Tigliev's plurality of support members (30, 34, 40) which are connected to a stress-free connection between the adjacent parts of the support members.

BEST AVAILABLE COPY

Serial No.: 09/423,916

0.0011

does not specifically disclose tubular support members. The closest prior art is Motoda for its teaching of a support member (36) that is a tubular member. However, the nature of the internal structure is never described. Motoda states, Motoda, either alone or in combination with Tigliev, does not teach a support member[s] with first and second concentric tubes having a substantially different moduli of elasticity." There is no teaching by Van Auken for its teaching of "first (the aluminum core) and second (the surrounding reinforced plastic) that are rigidly connected together and elastically damped."

It is respectfully submitted that Van Auken, either alone or in combination with Motoda, does not teach or suggest:

"first and second concentric tubes formed of first and second materials, respectively, wherein *one of said materials is fiber-reinforced plastic, and the other material is metal* with a compressive elasticity relative to that of said one of said materials"

as required by independent claim 46.

The inventive support members are formed of "first and second materials" where one of "said first materials" is, for example aluminum. Another of "said first and second materials" is, for example, fiber-reinforced plastic.

The invention, according to claim 46, clearly shows a support member formed of first and second materials having a substantially different moduli of elasticity. The specification at page 4, lines 7-9, which reads: "One of the objects of the invention is to provide a strength stand tubes made of fiber composites by combining another supporting material having a substantially different moduli of elasticity."

BEST AVAILABLE COPY

Serial No.: 09/423,916

See, also, the specification at page 4, line 27, through

"...[T]he combination according to the combination of tubular parts, such as a segment which is cemented to an inner or outer part, could even be...an aluminum tube to which a tube is cemented so that it becomes a composite (metal/plastic or plastic/metal, or comparable repeating the two materials)."

As stated on page 5, lines 15-17 of the specification, plastic material. This is then wrapped by a fiber material, lines 17-18. As shown in Fig. 3, fibers 98 are wound around the composite tube (97a). The "fiber-reinforced tube" taught in the composite tube 97a of the invention. However, the specification states that *97a is combined with an aluminum tube 97b or with another material of modulus of elasticity.*" See the specification at page 15, line 15.

As is clearly shown in Fig. 4, the composite tube 97a is in concentric alignment with tube 97b, which may be, for example,

In contrast, Van Auken merely teaches a single layer of reinforced plastic gore. Van Auken discloses "the tube 30 thereof a fiber-reinforced plastic skin." See column 2, line 30. The tube 30 is wrapped with a gore (31). See column 3, lines 29-30. There is no teaching or suggestion in Van Auken that the tube 30 is concentric with a second tube, and the second tube has a modulus of elasticity with respect to the first tube.

There is no teaching or suggestion in Van Auken that the tube 30 is formed of first and second materials, respectively, where the first material is fiber-reinforced plastic, and another of said first or second

BEST AVAILABLE COPY

is a
page 5,

the
tube
ent

in

fiber-
face
(30) is
line 2.
the tube
is of

thes
materials

0011

Serial No.: 09/423,916

comparatively low modulus of elasticity relative to that of said materials," as required by claim 46.

Furthermore, nowhere does the combination of Tigliev suggest "at least one interface divides at least one of said plurality of support member segments" as required by claim 46.

Fig. 2 shows examples of interfaces 96a, 96b, and 96c which divide said plurality of support member segments into a pair of support member segments. For example, interface 96a divides support member segments 1a and 1b. See, also, the specification at page 10. The interfaces 96 may divide axially aligned support member segments.

Nowhere does the prior art teach or suggest "at least one interface divides at least one of said plurality of support members into a pair of support members" as required by claim 46.

Applicants respectfully submit that the prior art does not teach or suggest the specific combination of features set forth in claim 46.

Accordingly, it is respectfully submitted that the combination of Tigliev, Motoda and Van Auken. Applicant respectfully submits that the combination of the invention would not arrive at the invention as claimed by one skilled in the art would not arrive at

- "at least one of said plurality of support members is formed of concentric tubes formed of first and second materials, wherein the modulus of elasticity of said first and second materials is metal with a modulus of elasticity relative to that of said one of said first materials."

on or
a pair

members

the

the

one of

claim

the

the

the time

son

and

one

said

elasticity

Serial No.: 09/423,916

- "at least one interface divides at least one into a pair of support member segments."

as required by claim 46.

As claims 16-30 and 33-45 ultimately depend from are not rendered obvious by the prior art of record. It is of the claims under 35 U.S.C. 103(a) be withdrawn.

The indication of allowable subject matter in claim Since reconsideration is being requested herein with respect to claim 43 ultimately depends, claim 43 has not been rewritten.

In view of the foregoing, it is respectfully submitted that the Office Action has been made. The claims, as amended, are in good standing for allowance. Early and favorable action is respectfully requested.

It is also submitted that no fees are required. I am not authorized to charge any fees due as a result of this Amendment. Sincerely,
the undersigned.

Respectfully,
HODGSON
Attorney

By:

Date: May 23, 2003

HODGSON RUSS LLP
One M&T Plaza
Suite 2000
Buffalo, New York 14203-2391
Tel: (716) 856-4000

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☒ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☒ **SKEWED/SLANTED IMAGES**
- ☒ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.